AMSAT News Service Weekly Bulletins
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AMSAT NEWS SERVICE
ANS-289

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor@amsat.org

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SB SAT @ AMSAT $ANS-289.01
It's Time to Finalize Your Symposium Reservations

AMSAT News Service Bulletin 289.01
>From AMSAT HQ SILVER SPRING, MD.
October 16, 2011
To All RADIO AMATEURS
BID: $ANS-289.01

AMSAT's 2011 Space Symposium is quickly approaching. It will be held on Friday, November 4th through Sunday, November 6th in San Jose, CA.

This year commemorates the 50th anniversary of the launch of OSCAR 1. Many events are planned to celebrate our 50 years of keeping amateur radio in space. The original OSCAR 1 prototype has been refurbished by the ARRL Lab. It will be on display and transmitting. Our Banquet Speaker is Lance Ginner, K6GSJ who was on the OSCAR 1 development team.

Our annual gathering will also feature:

+ Space Symposium with Amateur Satellite Presentations
+ Operating Techniques, News, & Plans from the Amateur Satellite World
+ Board of Directors Meeting open to AMSAT members (Nov. 3-4)
+ Meet Board Members and Officers
+ Annual General Membership Meeting
+ Annual Banquet-Keynote Speaker and Door Prizes

The 2011 Symposium hotel and registration web pages are now available on the AMSAT web site. You may register for the Symposium and Annual Banquet at the AMSAT Store:
http://www.amsat-na.com/store/SymposiumReg.php

Visit the Symposium and Annual General Meeting web page for details
and the latest information:
http://www.amsat.org/amsat-new/symposium/2011/index.php

Symposium Registration including a copy of the Proceedings is:
+ $50 per person starting September 20, 2011
+ $55 per person at the door

The Saturday evening banquet is $45 per person. The Sunday morning
Area Coordinator's Breakfast is $15 per person.

The hotel selected is the Wyndham San Jose, close to the airport. The
AMSAT discount rate is $79.00+taxes per night. The reservation block
code when calling the hotel directly is "AMSAT". The hotel telephone
number is 408-453-6200. If you are making reservations on-line use
1031FSJAM for the group code. The direct link to the hotel web page
is: http://www.wyndham.com/hotels/SJCAP/main.wnt

The cutoff date for the special AMSAT group rate at the Wyndham
Hotel for room reservations to October 24.

If you are planning to book a room on dates other than November 2,
3, 4, 5, you will have to call the hotel directly and ask for *in-
house reservations*. You can get the $79 rate 3 days before and 3
days after the above dates but you cannot book the room on their
website. Any problems, give Martha a call at the AMSAT Office:
301-589-6062.

[ANS thanks the 2011 Symposium Committee for the above information]

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SB SAT @ AMSAT $ANS-289.02
Tentative Schedule of Symposium Events

AMSAT News Service Bulletin 289.02
>From AMSAT HQ SILVER SPRING, MD.
October 16, 2011
To All RADIO AMATEURS
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Thursday, November 3

AMSAT Board of Directors Meeting open to all AMSAT members

Friday, November 4

Symposium Registration Desk Open
AMSAT Board of Directors Meeting (Friday morning)
1300 - 1700 Symposium Opening and Technical Presentations

Saturday, November 5

0730   Symposium Registration Desk Open
0800 - 1200 Technical Presentations
1200 - 1300 Lunch Break on your own
1300 - 1530 Technical Presentations
1530 - 1700 Annual General Meeting
1700 - 1800 Break
1800 - 1900 Attitude Adjustment with Cash Bar
1900 - 2100 Banquet and Keynote Speaker and Door Prize Drawing

Sunday, November 6

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0730     Area Coordinators Field Ops Breakfast
0945   Meet for Sunday Tour Tech Museum of Innovation in San Jose.
See the latest Tour information at:
http://www.amsat.org/amsat-new/symposium/2011/SymposiumSchedule.php

[ANS thanks the 2011 Symposium Committee for the above information]

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SB SAT @ AMSAT $ANS-289.03
SSTL Celebrates 30th Anniversary of UoSAT-1

AMSAT News Service Bulletin 289.03
>From AMSAT HQ SILVER SPRING, MD.
October 16, 2011
To All RADIO AMATEURS
BID: $ANS-289.03

Surrey Satellite Technology Limited (SSTL) celebrated the 30th
anniversary of the launch of Surrey's first satellite, UoSAT-1.
Launched into orbit on 6th October 1981, UoSAT-1 was designed
and built by a team from the University of Surrey led by SSTL
founder Sir Martin Sweeting, G3YJO.

UoSAT-1 was also known as UoSAT-OSCAR 9. It was a scientific and
educational low-Earth orbit satellite containing many experiments
and beacons but no amateur transponders. UO-9 was fully operational
until it re-entered October 13, 1989 from a decaying orbit after
nine years of service.

UO-9's mission scored several firsts for technology which would be
incorporated into future amateur satllite missions including:

+ The first on-board computer (IHU - Integrated Housekeeping Unit)
+ Battery and attitude management
+ Remote control, and experiments
+ First S-band beacon
+ It carried a CCD camera, a Digitalker speech synthesizer, and
  transmitted telemetry data on a 145.826 MHz beacon at 1200 baud
  using asynchronous AFSK.

Amateur Satellite Operators are also familiar with later SSTL UO-Sat
developments:

+ UoSAT-2 was designated as UO-11 which can still be heard operating
  on 145.825 MHz with a beacon transmitting 1200 baud using asynchronous

  AFSK.

+ UoSAT-3 was designated as UO-14 (no longer operational) and featured
  an FM Voice Repeater with 145.9750 MHz uplink and 435.0700 MHz down-
  link.

More history can be found in an interesting article posted on the
SpaceDaily.com website: http://tinyurl.com/3urdd9o

Read the SSTL Press Release at:
http://www.sstl.co.uk/news-and-events?story99

[ANS thanks SSTL for the above information]

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SB SAT @ AMSAT $ANS-289.04
IARU Spectrum Futures Committee Addresses Amateur Satellite Allocations

AMSAT News Service Bulletin 289.04
>From AMSAT HQ SILVER SPRING, MD.
October 16, 2011
To All RADIO AMATEURS
BID: $ANS-289.04

The September, 2011 ARRL Spectrum Defense Matters newletter discusses the formation of the IARU Spectrum Futures Committee to develop strategies for retaining access to bands above 148 MHz for the amateur and amateur-satellite services globally.

There are no Global Primary Amateur and Amateur Satellite Service allocations between 146 MHz and 24 GHz. Access to spectrum suitable for weak signal work in the 146-3500 MHz region is crucial for the Amateur Satellite Service.

Read the ARRL Spectrum Defense Matters newletter (PDF) on-line at:
http://tinyurl.com/5sre5pv (arrl.org)

[ANS thanks the ARRL for the above information]

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SB SAT @ AMSAT $ANS-289.05
Amateur Satellites Featured in Astronautical Congress Meeting

AMSAT News Service Bulletin 289.05
>From AMSAT HQ SILVER SPRING, MD.
October 16, 2011
To All RADIO AMATEURS
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The 62nd International Astronautical Congress held in Cape Town, South Africa featured amateur radio satellites in various sessions.

The data collected by SumbandilaSat, S0-67, provides useful information for selecting future ground station locations for minimum interference. The study by Dr Jakobus van Zyl and Johann Lochner, ZE6CBC, both engineers at SunSpace, covered a global geographical survey of received signal's strength in the VHF band. This data will give an indication of frequencies to use for command and telemetry communication at existing ground stations.

The Cape Peninsular University of Technology unveiled it's first CubeSat during the conference. This satellite will include a beacon operating in the 20 meter amateur band on 14.099 MHz. The main mission will be to support the Hermanus Magnetic Observatory science payload for operations in Antarctica. The downlink will be used for optimising the SuperDarn HF radar system operated by the National Space Agency. It is also expected to provideinteresting antenna characterization opportunities for radio amateurs. No launch date has been set at present.

More information can be found on the South Africa AMSAT web page:
http://www.amsatsa.org.za/

An article written by Hans van de Groenendaal, ZS6AKV, about the new HF CubeSat mission can be read at: http://tinyurl.com/68hzgou

[ANS thanks SARL and SA-AMSAT for the above information]

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SB SAT @ AMSAT $ANS-289.06
AubieSat-1 Vandenberg Launch Rescheduled to October 27

AMSAT News Service Bulletin 289.06
>From AMSAT HQ SILVER SPRING, MD.
October 16, 2011
To All RADIO AMATEURS
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The launch of Auburn University's AubieSat-1 satellite has been re-scheduled to October 27, 2011 due to problems found during the system integration of the primary mission. A hydraulic system leak was detected and the cause was found to be a small crack in a hydraulic tube. A replacement tube was manufactured, installed, and retested. Also, a flexible fabric collar connecting two engine system exhaust ducts was found to be damaged following pressurized leak testing. The damaged fabric collar is being removed and replaced.

AubieSat-1 is designed to transmit with a power of about 800 milliwatts on a frequency of 437.475 MHz, plus or minus Doppler correction. The beacon signal, along with telemetry, will be sent using A1A continuous wave Morse code at 20 words per minute. Additional telemetry from the on board science experiment will use CW transmissions up to 60 WPM.

An internet Echolink conference group is also planned to begin one-half hour prior to launch and continue until about 30 minutes after confirmation of the first receipt of signals from the satellite. Information on the conference groups title will be distributed nearer to the launch for interested stations.

Long-time AMSAT Member John Klingelhoeffer, WB4LNM serves as the Technical Advisor in Auburn University's Student Space Program.

[ANS thanks Dominic Hildebrandt at Auburn University for the
  above information].

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SB SAT @ AMSAT $ANS-289.07
Successful Launch for JUNGU and SRMSat From India

AMSAT News Service Bulletin 289.07
>From AMSAT HQ SILVER SPRING, MD.
October 16, 2011
To All RADIO AMATEURS
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University satellites 'Jugnu' and 'SRMSat' using amateur frequencies were successfully launched by PSLV C-18 from Satish Dhawan Space Centre Shriharikota, India on October 12.

The Jugnu team is requesting CW Beacon signal Reports along with the plain decoded morse message. The Jugnu reports can be sent to the following mail IDs:
wmy@isac.gov.in
shantag@iitk.ac.in

After launch the JUNGU beacon was first received by Shamai 4Z1WS from Israel. The decoded CW text message by indicated the nominal performance of the spacecraft.

Jugnu Frequency: CW Beacon - 437.275 MHz (17dbm)

After launch the SRMSat beacon was first received in New Zealand by Ian Ashley, ZL1AOX who reported weak but copyable signals.

The SRMSat reports can be sent to:
sanjaynekkanti@gmail.com
kc2yqj@arrl.org

SRMSAT Frequency: CW Beacon - 437.425 MHz (10dbm)
SRMSat Keps file: http://dinesh.cyanam.net/dl/SRMSAT_TLEs.txt

The CW Telemetry and decoding details for SRMSAT are as below:
Character 6: Satellite Mode
1. P - Sensing Mode
2. X - Communication Mode
3. C - Normal Mode
4. Z - Detumbling Mode

Character 7: Magnetometer Status
1. C - On
2. P - Off
3. X - Error
4. Z - Ready

Character 8: GPS Status

Character 9: Payload Status

Character 10: Temperature Status
1. C - < 0 degree celcius
2. P - 0 to 10 degree celcius
3. X - 10 to 20 degree celcius
4. Z - 20 to 30 degree celcius
5. 6 - 30 to 40 degrees celcius
6. 4 - Above 40 degrees celcius

Character 11: Battery Status
1. C - Less than 7 V
2. P - >7V and <7.3V
3. X - >7.3V and <7.6V
4. Z - >7.6V and <7.9V
5. 6 - >7.9V and <8.1V
6. 4 - >8.1V

[ANS thanks Dinesh Cyanam, KC2YQJ, and Mani, VU2WMY for the above information]

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SB SAT @ AMSAT $ANS-289.08
NASA Announces Two Contests For Students

AMSAT News Service Bulletin 289.08
>From AMSAT HQ SILVER SPRING, MD.
October 16, 2011
To All RADIO AMATEURS
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GRAIL Spacecraft Naming Contest

The Gravity Recovery And Interior Laboratory mission to the moon, also known as GRAIL uses two twin spacecraft orbiting the moon at very precise distances to create a gravity map of the moon. Accurate knowledge of the moon's gravity could also be used to help choose future landing sites on the moon.

Now that they're on their way to the moon, the two robotic spacecraft, currently dubbed GRAIL-A and GRAIL-B, need real names, ones that capture the spirit and excitement of lunar exploration. And NASA is looking for students to help with the naming duties.

U. S. students in grades K-12 are eligible. Entries should include the chosen names for the spacecraft, along with an explanation of why those names should be selected. Justification can be any length, from a short paragraph to a 500-word essay.

Entries are due Nov. 11, 2011. All entries must be submitted by teachers. For more information about the GRAIL mission and to submit entries via the online entry form visit: http://solarsystem.nasa.gov/grail/namingcontest.cfm.

If you have questions about the GRAIL Naming Contest, please email: grailcontest@jpl.nasa.gov.

Your Experiment, What Will You Do Contest

NASA has created a contest for kids from anywhere on the planet to have their idea for a science experiment performed by astronauts on the International Space Station, with it live-streamed back to Earth.

YouTube SpaceLab is an open competition inviting 14 – 18 year olds to come up with an idea for a science experiment for space. You don't have to actually do the experiment, you just have to make a 2-minute video of yourself explaining it.

The tagline for this contest is "Your experiment, 250 miles above the Earth, for the whole world to see," and this should be a really fun and engaging world-wide contest that is sure to generate a lot of interest. Students in two age categories, 14-16 years old and 17-18 years old, either alone or in groups of up to three, may submit a YouTube video describing their experiment to: http://YouTube.com/SpaceLab. More information about the contest is available at this link, too.

Deadline is Dec. 7. The panel of judges is a veritable Who's Who of space mover and shakers, including Dr. Stephen Hawking, Bertrand Piccard, Professor Colin Pillinger, Peter Diamandis, Guy Laliberté, Richard Garriott, astronauts Leland Melvin, Chris Hadfield, and Bill Gerstenmaier from NASA.

There are some other great prizes, too. Six regional finalists will gather in Washington, D.C., in March 2012 to experience a ZERO-G flight and receive other prizes. From them, two global winners, one from each age group, will be announced and later have their experiments performed 250 miles above Earth and live streamed on YouTube. Additionally, the global winners will get to choose a unique space experience as a prize: either a trip to Tanegashima Island, Japan, to watch their experiment blast off in a rocket bound for the ISS, or once they are 18 years old, a one-of-a-kind astronaut training experience in Star City, Russia, the training center for Russian cosmonauts.

The remaining four regional winners will also receive a trip to the U.S., a ZERO-G flight, and a Lenovo IdeaPad laptop. The contest is sponsored by YouTube and Lenovo, in cooperation with Space Adventures and space agencies NASA, ESA, and JAXA.

More details can be found on-line in these videos:
http://www.youtube.com/SpaceLab
http://www.youtube.com/watch?feature[illegible]ayer_embedded&v[illegible]9k63Be35c

[ANS thanks the NASA Education Express Message for the above information]

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SB SAT @ AMSAT $ANS-289.09
Satellite Shorts From All Over

AMSAT News Service Bulletin 289.09
>From AMSAT HQ SILVER SPRING, MD.
October 16, 2011
To All RADIO AMATEURS
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+ Congratulations are in order for John, K8YSE upon reaching the 1000th grid worked via satellite.

+ Tom, W9KE has written a program which looks for satellite passes where communications between two different grid locations is possible. Tom invites interested testers to download the program from http://www.tomdoyle.org/simplesat/simplesat.html It is a zip file. Un-Zip the files into a folder and run the SimpleSat.exe file. No install is required and the three files it will create are stored in the same folder as the SimpleSat.exe program. It does nothing to the registry. It downloads sat data from the net so use a computer connected to the net when you run the program. Contact Tom directly at tomdoyle1948@gmail.com with any questions or comments.

+ An interesting umbrella shaped antenna was successfully deployed this week from the new Navy experimental TacSat 4 communications satellite launched on-board a Minotaur rocket on September 27 from the Alaska Kodiak launch complex. A photo of the experimental antenna and a video of the launch can be viewed at: http://spaceflightnow.com/minotaur/tacsat4/111008update/

+ Zac Manchester, a graduate student in Aerospace Engineering at Cornell University developed, fingernail-sized satellites which may be deployed for earth-orbit missions and could someday travel to Saturn. As they flutter down through its atmosphere, they will collect data about chemistry, radiation and particle impacts. Each Sprite contains a 10mw transmitter. KickSat is a CubeSat designed to carry hundreds or even thousands of Sprites into space and deploy them in low Earth orbit. Donors who sponsor a sprite will get to name it and specify the text that it will transmit on a frequency between 433 and 436 MHz. A group or club can also sponsor a fleet of Sprites together. Full details can be found at: http://www.kicksat.org (Kickstarter.com)

+ SA AMSAT has issued the first call for papers for the 2012 Space Symposium to be held in Durban on Saturday 12 May 2012, at the University of KwaZulu-Natal. If you would like to present a paper, please send a brief synopsis to reach SA AMSAT by no later than 31 January 2012. The theme will be 50 years of OSCAR, celebrating the launch of the first amateur radio satellite on 12 December 1961.

+ During Opportunity rover's three-year trek across 20 km (13 miles) of Meridiani Planum on Mars, rover planners captured a horizon photograph at the end of each drive using the unique vantage point of the rover itself. 309 images taken during the journey appear in this video. A sound track was generated using the rover's accelero-meter data - rough sounds are rocky terrain, and traversing sandy terrain is quieter. Take your ride across Mars at: http://tinyurl.com/666b9gy (UniverseToday.com)

+ Watch a video of the flight of the custom-built 26 ft. Qu8k (pro-nounced "Quake") rocket on September 30, 2011 from the Black Rock Desert in Nevada. It reached an altitude of 121,000 feet (36,880 meter) in 92 seconds, at speeds of 2,185 mph: http://tinyurl.com/3stmloo (UniverseToday.com)

+ If you read an interesting scientfic paper discussing how our Earth would appear to other solar systems searching for exo-planets you'll be able to steer the the conversation to some-thing more interesting than the state of the other fellow's gallbladder on 75 meters. Bone up at: http://arxiv.org/PS_cache/arxiv/pdf/1110/1110.1340v1.pdf

[ANS thanks everyone for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive addi-tional benefits. Application forms are available from the AMSAT Office. And with that, please keep in mind, "That's the third electric shock I've gotten today!" Tom said, revoltedly. That was an old joke but he didn't know any current puns. He didn't know watt made him say that. At which point, he'd have to send that telegram again, Tom said, remorsefully. Then he was out of here, walking home after deciding he wouldn't let a flat tire get him down, Tom said without despair ... makes you wonder wire we continuing?

73,
This week's ANS Editor,
JoAnne Maenpaa, K9JKM